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Decisions about children under 21 and persons who are mentally incompetent may be difficult. A consent must be obtained on their behalf, either from the parent or guardian or, where there is neither, from the next of kin or from the hospital superintendent. Provided written consent has been given by the parent or guardian, little difficulty is likely to arise if there is no real risk and little discomfort for the subject.

When should the consent be obtained? Obviously it should not be obtained when the subject is under pressure to comply with the physician's suggestion. It would seem unwise to ask a woman in labour in the delivery suite or in the admitting office to consent to having a catheter inserted through the abdominal wall into the uterus to measure aminotic fluid pressure when such a procedure would not normally be performed if there were no research project under way. If such a project is being considered, it should be possible for the attending physician to discuss it at a prenatal visit and thereby give the patient time to think the matter over and discuss it with her husband. Nor, as a rule, should the consent be obtained in the classroom. Where medical students are to be used as subjects, they may think that their academic success will be prejudiced if they do not agree to participate. The pressure can be lessened somewhat if one teacher asks those members of his class who are willing to participate in a colleague's project to give their names to the colleague's secretary. Preferably the investigator conducting the research should not be one of the teachers of that class.

The question of privacy deserves mention. In Canada the law as applied to privacy has not been developed to the extent that it has in the United States, but the time seems ripe for legislation on this subject. Privacy includes not only the right to privacy of the body, which automatically encompasses the right to freedom from assault, but also the right to freedom from invasion of the mind and freedom from disclosure of personal data to others. These considerations apply to general records but they apply to research records as well, in which case the problem is further compounded because the information is usually not obtained for the benefit of the patient.

When research involves human subjects, the research investigator must always remember that in the final analysis there is no substitute for his volunteer. A person of such importance should be given the consideration and respect which his unique position merits.

CORRESPONDENCE

Letters are welcomed and will be published, if suitable, as space permits. They should be typewritten, double spaced.

LABORATORY AIDS FOR THE STUDY OF HEMOSTASIS

To the Editor:

The editorial on "Laboratory Aids for the Study of Hemostasis" (*Canad. Med. Ass. J.*, 100: 535, 1969) was very timely. I would like to comment both on the editorial and on the letter from Dr. A. Majid Shojania (*Canad. Med. Ass. J.*, 100: 1061, 1969).

I believe that if one is going to use screening tests, especially preoperatively, then only a few simple but sensitive tests should be chosen. These would include the bleeding time, the prothrombin time, the partial thromboplastin time (P.T.T.), and either a platelet count or a blood film. The Fibrindex test is not necessary, since the appearance of the clot which forms in the prothrombin or P.T.T. tube is a good indication of the content of fibrinogen present. I would question also the value of the euglobulin lysis time or the whole-blood clot lysis time as preoperative screening procedures.

The question raised in the editorial regarding the indications for screening tests is a difficult one to answer. Dr. Majid Shojania suggested that they should not be used at all preoperatively, but rather that a proper history and physical examination be done. I agree whole-heartedly that the history and physical examination are as good (often better) indicators of a bleeding diathesis. However, I wonder how adequate our histories and physical examinations are, particularly in patients undergoing routine surgery such as tonsillectomy. In situations where little time is available for extensive histories and physical examinations (and I suspect this is a fairly common situation), then there is a place for preoperative screening tests for bleeding disorders. The screening tests outlined will miss the occasional mild bleeding disorder, but patients with these disorders are not likely to be a problem at operation.

The second indication for screening tests mentioned in the editorial was a history of spontaneous bleeding of uncertain cause. I believe patients in this situation should be given a more comprehensive set of screening tests than I have suggested above. It is well known for instance that the bleeding time in patients with mild von Willebrand's disease may be normal at times. Similarly, the partial thromboplastin time may fall within the normal range, and yet the factor VIII level may be low. In patients with heterozygous factor XI deficiency, there may be only borderline prolongation of the partial thromboplastin time. Therefore, those patients who have a history of bleeding require a more thorough labora-

tory investigation if they are to be given a satisfactory answer to their problem.

While I agree with most of the excellent comments made by Dr. Shojania, I take exception to the conclusion that the bleeding time and clotting time taken together are of no value as screening procedures. While the whole-blood clotting time is such a crude laboratory test that it should be discarded completely, the bleeding time is still a useful test and screening procedure. I have seen several cases of hitherto unrecognized thrombocytopenia which were detected preoperatively because of a prolonged bleeding time. The test is particularly useful in detecting patients with functional platelet abnormalities, either congenital, as in Glanzmann's disease, or acquired, as in uremia.

P. D. McCLURE, M.D., C.M., F.R.C.P.[C]

Division of Hematology,
Hospital for Sick Children,
Toronto, Ont.

PREOPERATIVE BLEEDING AND CLOTTING TIME

To the Editor:

The lamentable relationship that still frequently exists between the clinical laboratory, the bedside and the operating room is rather forcefully expressed in Dr. Shojania's letter on "Preoperative Bleeding and Clotting Time" (*Canad. Med. Ass. J.*, 100: 1061, 1969). A prolonged clotting time obtained by faulty technique remained unnoticed and unheeded by the surgeons in nine out of 10 cases.

Since no ill consequences were observed, Dr. Shojania merely uses the observation as an opportunity to deride the value of the bleeding and clotting times, stating: "it is definite malpractice in my opinion to accept normal bleeding and clotting times as evidence of normal hemostatic mechanism." While one agrees with this conclusion except for the term "malpractice", the problem is not that easily disposed of.

Why this lack of co-ordination between the laboratory and the operating room? Who is at fault? Obviously, the laboratory is not blameless. To send out reports of prolonged clotting times caused by improper washing of test tubes does not help to develop the confidence of the surgeon in the laboratory; neither does a clotting time that has a "normal" range of 10 to 20 minutes. When I encounter a clotting time that exceeds eight minutes by my standardized method,[1] I am positive of a coagulation defect. It should always be borne in mind that any test, no matter how simple, is of dubious value unless carried out meticulously by a carefully standardized technique. For example, I have recently found that normal blood showed no clot retraction when carried out in disposable glass tubes that had been rinsed but not scoured.

The surgeon's lack of confidence in the laboratory as an aid in solving his problems of hemostasis has a historical background. Until the one-stage prothrombin time test became available, the laboratory had little to offer the surgeon; when this test came into general use it became an important factor in completely eliminating the dreaded postoperative bleeding in patients with obstructive jaundice.

Today, countless exploratory operations are performed to find the bleeding points in unexplained gastrointestinal hemorrhages. How many of these patients could be spared a serious major operation, were the diagnosis of the Minot-von Willebrand syndrome and/or telangiectasia recognized beforehand, and the effect of aspirin determined by the aspirin tolerance test, cannot be answered statistically, but I am sure it is significantly high. With the aspirin tolerance test, the laboratory can offer the surgeon tangible help. Both the pathologist and the surgeon could profitably read my comments on "Preoperative gauging for hemostasis,"[2] and work out a scheme of liaison from which the patient would be the beneficiary.

ARMAND J. QUICK, Ph.D., M.D.,
Research Professor

Hemostasis Research Laboratory,
Marquette School of Medicine,
Milwaukee, Wisconsin 53233.

REFERENCES

1. QUICK, A. J.: Hemorrhagic diseases and thrombosis, 2nd ed., Lea & Febiger, Philadelphia, 1966, p. 388.
2. *Idem*: *Surg. Gynec. Obstet.*, 128: 523, 1969.

SOME ADDITIONAL THOUGHTS ON RESIDENCY TRAINING

To the Editor:

I feel compelled to reply to the letter of Dr. Jacques Genest on residency training (*Canad. Med. Ass. J.*, 100: 1157, 1969).

It is to Dr. Genest's credit that he obviously enjoys being provocative. I shall attempt to be the same. When one works in an ivory tower such as a clinical research institute, it is very easy to become oblivious of what is going on in the community and of what its needs are.

Dr. Genest speaks of the impact of computers, AutoAnalyzers and instant communication on the delivery of health care. Slack, at the University of Wisconsin, and others have already demonstrated that a medical history taken by a computer is much more complete and accurate than that taken by a physician. This impact has barely begun to be felt and will bring about spectacular changes in medicine that many physicians have hardly begun to comprehend. It will be necessary to change entirely our concepts of medical education as well as of medical care delivery.

Instant retrieval of information and synthesis of this information by electronic devices will surely make many of the subspecialists, who are being trained in profusion in our more sophisticated teaching centres, anachronisms before they have completed their training.

I would be the first to admit that the research scientist physician specifically trained in research